

Date: Wednesday, 3/21/2007 3:48:28 PM
 User: Kim Johnston

Process Sheet

Customer	CU-DAR001	Dart Helicopters Services	Drawing Name	WEARPAD
Job Number	31417			
Estimat. Number	12781			
P.O. Number	N/A	S.O. No.	N/A	
This Issue	3/21/2007			
Prsht Rev.	NC			
First Issue	N/A	Type	SMALL /MED FAB	
Previous Run	31132			
Written By				
Checked & Approved By				
Comment	Est Rev:A	New Issue 07-03-08 ec		

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :	
1.0	M304S16GA	304/316 .063 Sheet	
		Comment: Qty.: 0.9177 sf(s)/Unit Total : 9.1770 sf(s) M304S16GA Stainless steel sheet 0.063" thick Batch: M401873	JAN 04/03/24 (10)
2.0	WATER JET	FLOW WATER JET	
		Comment: FLOW WATER JET 1-Cut as per Dwg D3564 ***** (D3564-1F)***** Dwg Rev: A Prog Rev: A	JAN 07/03/24 (10)
		2-Deburr if necessary	
3.0	QC2	INSPECT PARTS AS THEY COME OFF MACHINE	
		Comment: INSPECT PARTS AS THEY COME OFF MACHINE	JAN 07/03/24 (10)
4.0	QC8	SECOND CHECK	
		Comment: SECOND CHECK	EN 07/03/24
5.0	BRAKE NC	NC BRAKE	
		Comment: NC BRAKE Deburr if necessary Form on Brake as per Dwg D3564 using Jigs DT and DT	MR 07-03-30 (10)
		Form Joggles (2) as per Dwg D3564 on brake using Jig DT	SB 07/04/02 (10)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Wednesday, 3/21/2007 3:48:28 PM
User: Kim Johnston

Process Sheet

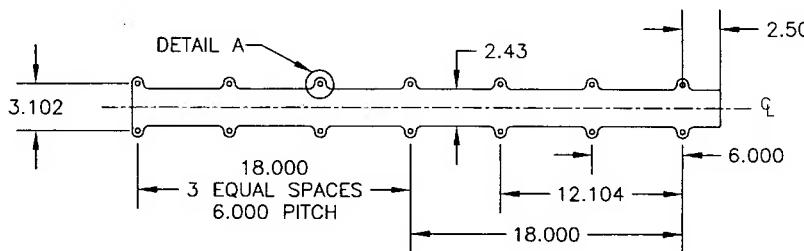
Customer: CU-DAR001 Dart Helicopters Services		Drawing Name: WEARPAD
Job Number: 31417		Part Number: D35641
Job Number:		
Seq. #:	Machine Or Operation:	Description :
6.0	QC5	INSPECT WORK TO CURRENT STEP <i>207-04-02</i>
		
Comment: INSPECT WORK TO CURRENT STEP Ensure joggle as per dwg D3429		
7.0	LARGE FAB 1	LARGE FABRICATION RESOURCE 1
		
Comment: LARGE FABRICATION RESOURCE 1 Qty Description Batch A/R 2059B Hardcoat <i>m102755</i> FC : 07/04/09 (10) Weld hardcoat as per Dwg D3437		
8.0	QC9	VISUAL WELDING INSPECTION
		
Comment: VISUAL WELDING INSPECTION <i>107/04/13 (10)</i>		
9.0	QC5	INSPECT WORK TO CURRENT STEP
		
Comment: INSPECT WORK TO CURRENT STEP <i>107/04/23</i>		
10.0	POWDER COATING	POWDER COATING <i>M 101601</i>
		
Comment: POWDER COATING Powder Coat Grey Sandtex (Ref: 4.3.5.6) as per QSI 005 4.3 <i>MS 04-04-26 (8)</i>		
11.0	QC3	INSPECT POWDER COAT/CHEMICAL CONVERSION
		
Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION <i>M.k 07/04/30</i>		
12.0	PACKAGING 1	PACKAGING RESOURCE #1
		
Comment: PACKAGING RESOURCE #1 Identify and Stock Location: <i>KP18</i> <i>MS 07-04-30 (9)</i>		
13.0	QC21	FINAL INSPECTION/W/O RELEASE
		
Comment: FINAL INSPECTION/W/O RELEASE <i>MS 07/05/01</i>		
Job Completion		
		<i>MS 07/05/01</i>

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
070416	9.0	Test one Engineering took one for fit; function test for P00082	PH	07.04.16	1	J 07-04-16	J 070416

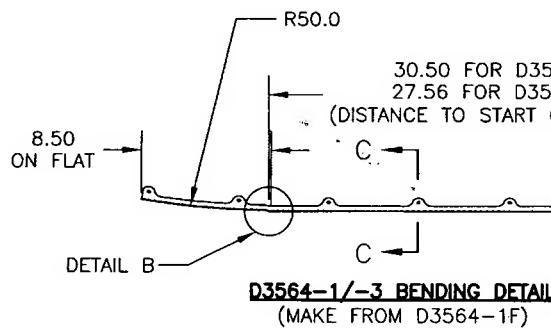
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: Date: 01/05/01
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
07.04.17	9	TABS WILL NOT FIT SKIRTURE	BB 07.04.17 P01 C257 042	OPEN TABS, REMOVE 0.060" MATERIAL SEE ATTACHED	07.04.19 BB 07/04/17	N 07/04/17		J 070417

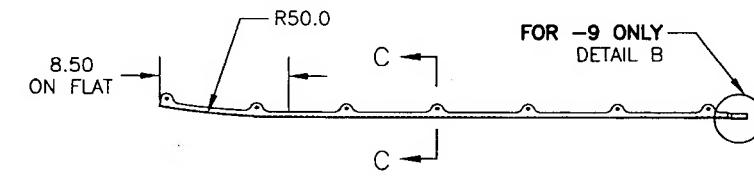
NOTE: Date & initial all entries



D3564-1F FLAT PATTERN



D3564-1/-3 BENDING DETAIL
(MAKE FROM D3564-1F)



D3564-9/-11 BENDING DETAIL
(MAKE FROM D3564-1F)

2059B HARDCOAT WELD
4.0 LONG
0.063 TO 0.125 HIGH
(TYP. 11 PLS.)
WELD AFTER BENDING AS
ILLUSTRATED PER DT8308

D3564-1/-3/-9/-11 WELDING DETAIL

NO. 31417
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
ENGINEERING
RETURN TO
SHOP COPY

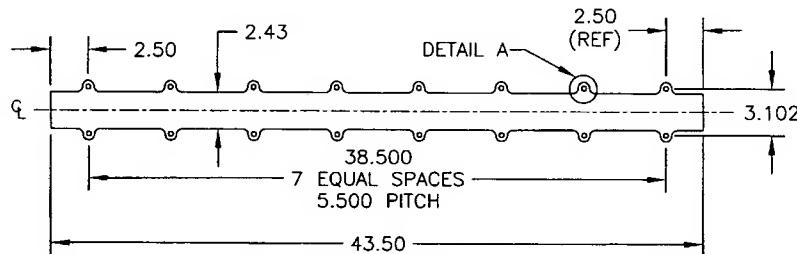
D3564-1/-3/-5/-7/-9/-11/-13 WEARPLATE NOTES

- 1) MATERIAL: AISI 304/316 SS SHEET, 16 GAUGE (0.063 THICK)
(REF DART MATERIAL SPEC M304S16GA)
- 2) FINISH: POWDER COAT GREY SANTEX (REF 4.3.5.6) PER DART QSI 005 4.3
- 3) WELD PER DART QSI 004
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 6) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 7) PART IS SYMMETRICAL ABOUT CENTERLINE

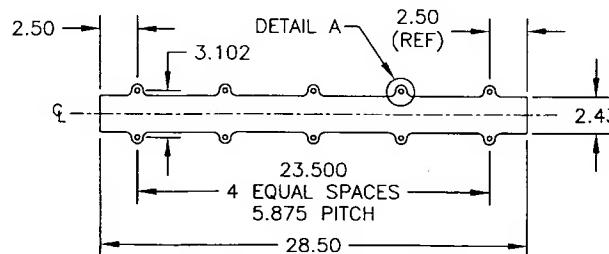
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A	06.12.18	NEW ISSUE
DESIGN <i>P4</i>	DRAWN BY <i>P4</i>	DART
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3564
DATE 06.12.18	TITLE WEARSHOE	REV. A SHEET 1 OF 2 SCALE 1:8

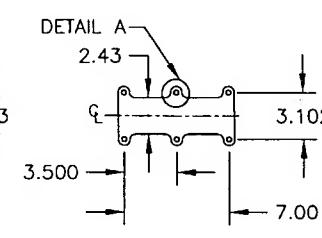
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07-07-28 #



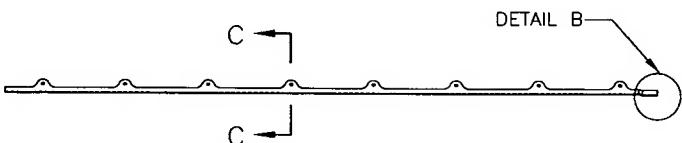
D3564-5F FLAT PATTERN



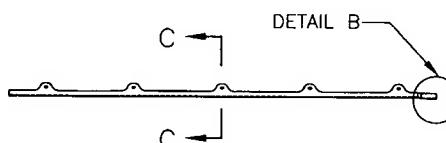
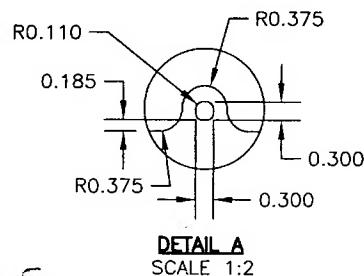
D3564-7F FLAT PATTERN



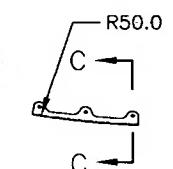
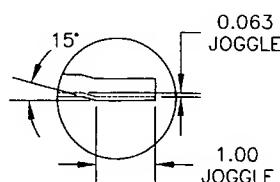
D3564-13F FLAT PATTERN



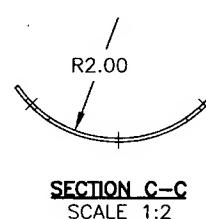
D3564-5 BENDING DETAIL
(MAKE D3564-5 FROM D3564-5F)



D3564-7 BENDING DETAIL
(MAKE D3564-7 FROM D3564-7F)



D3564-13 BENDING DETAIL
(MAKE D3564-13 FROM D3564-13F)



RELEASED
07/02/28

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DESIGN *PH*
CHECKED *[initial]*
DATE 06.12.18

DRAWN BY *PH*
APPROVED *[initial]*
TITLE WEARSHOE

DART
DRAWING NO. D3564

DART AEROSPACE LTD.
HAWKESBURY, ONTARIO, CANADA
REV. A
SHEET 2 OF 2
SCALE 1:8

WORK ORDER NO. 31417
WITHOUT NOTICE
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
ENGINEERING REFERENCE TO
SHOP COPY

DART AEROSPACE LTD

Work Order: 31417

Description: WearPad

Part Number: D35641

Inspection Dwg: D35641 Rev: A

Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST



First Article



Prototype

Inspection Sheet Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
A 3.102	+/- 0.010	3.101	/		Vern	
B 6.000(Pitch)	+/- 0.010	5.999	/		Vern	
C 18.000	+/- 0.010	18.000	/		Vern	
D 12.104	+/- 0.010	12.100	/		Vern	
E 6.000	+/- 0.010	5.998	/		Vern	
F 2.50	+/- 0.030	2.50	/		Vern	
G 2.43	+/- 0.030	2.43	/		Vern	
H 0.300	+/- 0.010	0.301	/		Vern	
I 0.300	+/- 0.010	0.302	/		Vern	
J 0.063	+/- 0.010	0.058	/		Vern	
K						
L						
M						
N						
O						
P						
Q						
R						
S						
T						
U						
V						
W						
X						
Y						

Measured by:	SAD
Date:	07/03/24

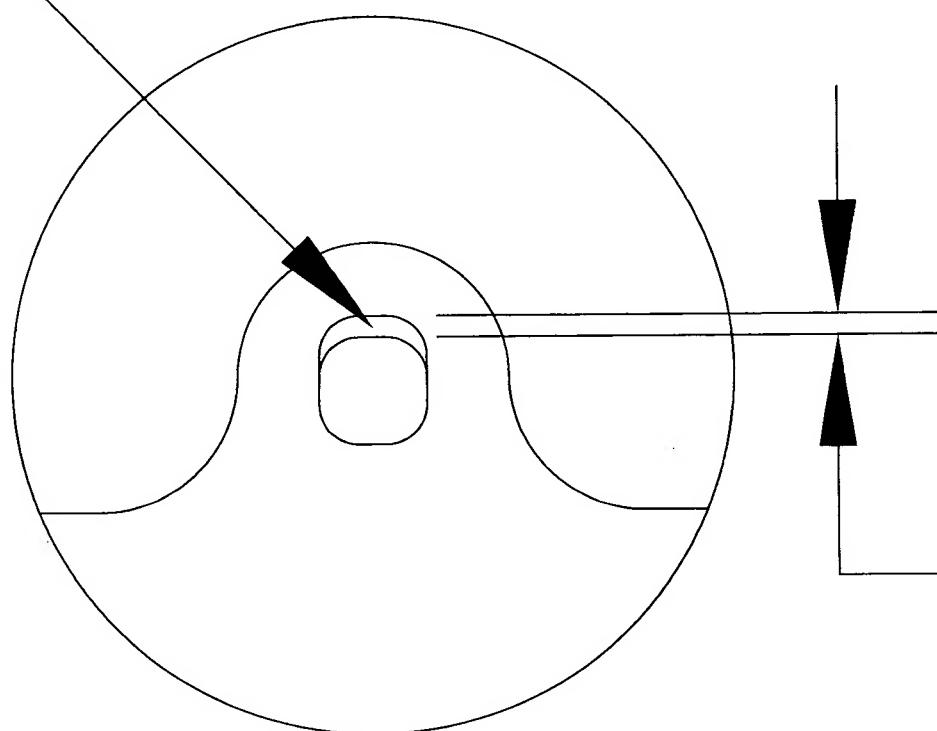
Audited by:	C1
Date:	07/03/24

Prototype Approval:	N/A
Date:	N/A

Rev	Date	Change	Revised by	Approved
		New Issue	KJ/RF	



REMOVE
MATERIAL



Peter Hum

From: David Shepherd [dshepherd@dart Aero.com]
Sent: April 12, 2007 4:55 PM
To: 'Peter Hum'
Cc: 'Chris Provencal'; 'Jason Murdoch'; 'L Lacelle'; 'S Shahbazian'; 'Bill Beckett'; 'Jean-Luc Menard'; 'Eric Charbonneau'
Subject: RE: stainless steel wearplate with gasket tab widening

This is an acceptable deviation to me.

However, the parts have to be cleaned up considerably from what I saw in the pictures (deburred and paint touched up).

It is my understanding that these tubes are going to a high profile customer (Air Log).
It can't be done half-assed or look like it was made to fit, in my opinion.

I can't understand why we are just finding out now that the flat pattern is 0.100" to 0.120" too narrow the day before we want to ship the parts. It seems to me this could have been tried with one small prototype piece on a couple sets of holes before we programmed and cut multiple parts on the waterjet. When I sign the drawings, I am assuming all of this stuff has been worked out. I would guess that the programmers are making the same assumption.

We have done a lot of conversions to stainless steel wearplates on other STC's (350, 412 float, 135). Have we done fitups for all of these parts to ensure that they will fit properly with the gasket?

Thanks,
David

From: Peter Hum [mailto:phum@dart Aero.com]
Sent: Thursday, April 12, 2007 2:30 PM
To: 'David Shepherd'
Cc: 'Chris Provencal'; 'Jason Murdoch'; 'L Lacelle'
Subject: stainless steel wearplate with gasket tab widening

David,

+0412-742 p# 09.04.17

We are trying to ship a 206L/407 float skidtube with stainless steel wearplates and the rubber gasket. Upon assembly we have found that the extra thickness the gasket gives, causes a difficult fit for the wearplate.

Jason opened the holes on the tab and the bolts not fit properly, to join the wearplates to the skidtube (see the attached pictures). We would have to open up all the wearplate tabs.

Is this an acceptable deviation for this shipment?

For future shipments the flat pattern will need to be updated.

Thanks
Peter